

1      Amendments to the Specification

2      Paragraph beginning on page 15, line 17 and ending on page 16, line  
3      15 is replaced with the following rewritten paragraph.

5      In step 1, a catalysis solution is first formed from water, an  
6      acid, and an oxidizer. The acid is preferably hydrochloric acid  
7      HCl, but other acids may be used, such as sulfuric acid  $H_2SO_4$ ,  
8      nitric acid  $HNO_3$ , perchloric acid  $HClO_4$ , phosphoric acid  $H_3PO_4$ ,  
9      acetic acid  $CH_3COOH$ , formic acid  $HCOOH$ , tartaric acid  $C_4H_6O_6$ ,  
10     methanesulfonic acid  $CH_3SO_3$ , ethylsulfonic acid  $C_2H_7SO_3$ , 4-  
11     toluenesulfonic acid  $C_7H_8SO_3$ , and camphorsulfonic acid (CSA). The  
12     oxidizer is preferably ammonium peroxydisulfate  $(NH_4)_2S_2O_8$ , but  
13     other oxidizers may be used, such as iron chloride  $FeCl_3$ , and other  
14     peroxydisulfate derivates such as  $Na_2S_2O_8$  and  $K_2S_2O_8$ . In step 2, a  
15     monomer solution is formed from a solution of a nonconducting  
16     monomer and an organic solvent. In the preferred form, the monomer  
17     is aniline, but other carbon-based organic monomers can be used,  
18     such as pyrrole, thiophene, toluidine, anisidine and other  
19     derivatives of aniline such as methylaniline, ethylaniline, 2-  
20     alkoxyaniline, and 2,5-dialkoxyaniline monomers, for forming  
21     polyaniline, polypyrrole, polythiophene, polytoluidine,  
22     polyanisidine, polymethylaniline, polyethylaniline, poly(2-  
23     alkoxyanilines) and poly(2,5-dialkoxyanilines) respectively. The  
24     organic solvent is preferably carbon tetrachloride ( $CCl_4$ ), but other  
25     organic solvents may be used, such as benzene, toluene, chloroform,  
26     methylene chloride, xylene, hexane, diethylether, dichloromethane  
27     and carbon disulfide. In the preferred form, aniline monomers are  
28     dissolved in carbon tetrachloride ( $CCl_4$ ).